

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet	1	of	4
-------	---	----	---

Complete if Known

Application Number	10/714,230
Filing Date	11/14/03
First Named Inventor	Sun, Sam-Shajing
Art Unit	1709
Examiner Name	Asha Hall
Attorney Docket Number	036021

U. S. PATENT DOCUMENTS

[illegible]

FOREIGN PATENT DOCUMENTS

[illegible]

**Examiner
Signature**

/Asha Hall/

Date Considered

03/05/2007

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 2

of

4

Complete if Known

Application Number	10/714,230
Filing Date	11/14/03
First Named Inventor	Sam-Shajing Sun
Art Unit	1709
Examiner Name	Asha Hall
Attorney Docket Number	036021.0002

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
AH		CHRISTOPH J. BRABEC, ANTONIO CRAVINO, DIETER MEISSNER, N. SERDAR SARIFITCI, THOMAS FROMHERZ, MINZE T. RISPENS, LUIS SANCHEZ, AND JAN C. HUMMELEN; Origin Of The Open Circuit Voltage Of Plastic Solar Cells; Advanced Functional Materials; October 5, 2001; Pages 374-380; No. 11; WILEY-VCH Verlag, Weinheim, Germany.	
		ANDERS HAGFELDT AND MICHAEL GRÄTZEL; Molecular Photovoltaics; Accounts of Chemical Research; 02/23/2000; 269-277; Vol. 33, No. 5, 2000; American Chemical Society.	
		WENDY U. HUYNH, JANKE J. DITTMER, AND A PAUL ALIVISATOS; Hybrid Nanorod-Polymer Solar Cells; www.sciencemag.org; March 29, 2002; Pages 2425-2427; Volume 295.	
		ANTONI CRAVINO, GERALD ZERZA, HELMUT NEUGEBAUER, MICHELE MAGGINI, STEFANIA BUCCELLA, ENZO MENNA, MATTIAS SVENSSON, MATS R ANDERSSON, CHRISTOPH J. BRABEC AND N. SERDAR SARIFITCI; Electrochemical and Photophysical properties of a Novel Polythiophene with Pendant Fulleropyrrolidine Moieties: Toward "Double Cable" Polymers for Optoelectronic Devices; J. Physical Chemistry; 12/11/2001; Pages 70-76; Volume B 2002, 105; American Chemical Society.	
		THOMAS STÜBINGER AND WOLFGANG BRÜTTING; Exciton Diffusion And Optical Interference In Organic Donor-Acceptor Photovoltaic Cells; Journal of Applied Physics; October 1, 2001; Pages 3632-3641; Volume 90, Number 7; American Institute of Physics.	
		BRIAN A. GREGG; Excitonic Solar Cells; J. Physical Chemistry; 05/01/2003; Pages 4688-4698; Volume B 2003, 107; American Chemical Society.	
		L. GORIS, M.A. LOI, A. CRAVINO, H. NEUGEBAUER, N.S. SARIFITCI, I. POLEC, L. LUTSEN, E. ANDRIES, J. MANCA, L. DE SCHEPPER, D. VANDERZADE; Poly (5, 6-Dithiioctylisothianaphene), A New Low Band Gap Polymer: Spectroscopy And Solar Cell Construction; Synthetic Metals; 2003; Pages 249-253; Volume 138 (2003); Elsevier Science B.V.	
		X. LINDA CHEN AND SAMSON A. JENEKHE; Supramolecular Self-Assembly of Three-Dimensional Nanostructures and Microstructures: Microcapsules from Electroactive and Photoactive Rod-Coil-Rod Triblock Copolymers; Macromolecules; 06/07/2000; Pages 4610-4612; Volume 33 (2000); American Chemical Society.	
		SAM-SHAJING SUN; Design of a Block Copolymer Solar Cell; Sol. Energy Mater. Sol. Cells; 79(2003); Pages 257-264; Volume 0927-0248-03; Elsevier B. V..	
		S. SUN, Z. FAN, Y. WANG, J. HALIBURTON, C. TAFT, S. MAAREF, K. SEO AND C.E. BONNER; Conjugated Block Copolymers for Opto-Electronic Functions; Synthetic Metals; 2003; Pages 883-884; Volume 137/1-3; Synthetic Metals.	

Examiner
Signature

/Asha Hall/

Date
Considered

03/05/2007

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 3 of 4

Complete if Known

Application Number	10/714,230
Filing Date	11/14/03
First Named Inventor	Sam-Shajing Sun
Art Unit	1709
Examiner Name	Asha Hall
Attorney Docket Number	036021.0002

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
AE		SAM-SHAJING SUN, ZHEN FAN, YIQING WANG, CHARLES TAFT, JAMES HALIBURTON and SHAHIN MAAREF; Synthesis and Characterization of a Novel-D-B-A-B Block Copolymer System for Potential Light Harvesting Applications; Organic Photovoltaics III; Pages 114-124; Volume 4801 (2003); Proceedings of SPIE.	
		SAM-SHAJING SUN, ZHEN FAN, YIQING WANG, CHARLES TAFT, JAMES HALIBURTON and SHAHIN MAAREF; Design and Synthesis of Novel Block Copolymers for Efficient Opto-Electronic Applications; Organic Photovoltaics II; Pages 121-128; Volume 4465 (2002); Proceedings of SPIE.	
		Z. FAN, Y. WANG, C. TAFT, J. HALIBURTON, S. MAAREF and S. SUN; Synthesis and Characterization of a Novel Block Copolymer Containing Donor and Acceptor Blocks; Polym. Mater. Sci. Eng.; 86(2003); Page 47.	
		J. L. BRÉDAS, R. SILBEY, D. S. BOUDREAU and R. R. CHANCE; Chain-Length Dependence of Electronic and Electrochemical Properties of Conjugated Systems: Polyacetylene, Polyphenylene, Polythiophene, and Polypyrrole; J. Am. Chem. Soc.; 1983; Pages 6555-6559; American Chemical Society.	
		MASSIMO LAZZARI and M. ARTURO LÓPEZ-QUINTELA; Block Copolymers as a Tool for Nanomaterial Fabrication; Advanced Materials; October 2, 2003; Pages 1583-1594; Volume 15 No. 19; WILEY-VCH Verlag, Weinheim, Germany.	
		THUC-QUYEN NGUYEN, JUNJUN WU, VINH DOAN, BENJAMIN J. SCHWARTZ, SARAH H. TOLBERT; Control of Energy Transfer in Oriented Conjugated Polymer-Mesoporous Silica Composites; www.sciencemag.org; April 28, 2000; Pages 652-656; Volume 288; www.sciencemag.org.	
		FRANZ PADINGER, ROMAN S. RITTBERGER and NIYAZI S. SARICIFTCI; Effects of Postproduction Treatment on Plastic Solar Cells; Adv. Funct. Mater; February 2, 2003; Pages 1-4; Volume 13, No. 2; Wiley-VCH Verlag, Weinheim, Germany.	
		X. LINDA CHEN and SAMSON A. JENEKHE; Block Conjugated Copolymers: Toward Quantum-Well Nanostructures for Exploring Spatial Confinement Effects on Electronic, Optoelectronic, and Optical Phenomena; Advance ACS Abstracts; August 15, 1996; Pages 6189-6192; Volume Macromolecules 1996, 29; American Chemical Society.	
		I. POLEC, A. HENCKENS, L. GORIS, M. NICOLAS, M. A. LOI, P. J. ADRIAENSENS, L. LUTSEN, J. V. MANCA, D. VANDERZANDE, N. S. SARICIFTCI; Convenient Synthesis and Polymerization of 5, 6- Disubstituted Dithiophthalides Toward Soluble Poly (Isothianaphthene): An Initial Spectroscopic Characterization of the Resulting Low-Band-Gap Polymers; Journal of Polymer Science; January 7, 2003; Pages 1034-1045; Volume 41, 2003, Part A: Polymer Chemistry; Wiley Periodicals, Inc.	
		S. JANIETZ, D. D. C. BRADLEY, M. GRELL, C. GIEBELER; M. INBASEKARAN and E. P. WOO; Electrochemical determination of the ionization potential and electron affinity of poly (9, 9-dioctylfluorene); Applied Physics Letters, October 26, 1998; Pages 2453-2455; Volume 73, number 17; American Institute of Physics.	

Examiner Signature	/Asha Hall/	Date Considered	03/05/2007
--------------------	-------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet

4

of

4

Complete if Known

Application Number

10/714,230

Filing Date

11/14/03

First Named Inventor

Sam-Shajing Sun

Art Unit

1709

Examiner Name

Asha Hall

Attorney Docket Number

036021.0002

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate); title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
AH		ZHENAN BAO, ANANTH DODABALAPUR and ANDREW J. LOVINGER; Soluble and processable regiorregular poly (3-hexylthiophene) for thin film field-effect transistor applications with high mobility; Applied Physics Letters, December 23, 1996; Pages 4108-4110; Volume 69, Number 26; American Institute of Physics.	
AH		C. W. TANG; Two-layer organic photovoltaic cell; Applied Physics Letters; January 13, 1986; Pages 183-185; Volume 48, No. 2; American Institute of Physics.	
AH		G. YU, J. GAO, J. C. HUMMELEN, F. WUDI and A. J. HEEGER; Polymer Photovoltaic Cells: Enhanced Efficiencies via a Network of Internal Donor-Acceptor Heterojunctions; Science; December 15, 1995; Pages 1789-1791; Volume 270.	
AH		BERT DE BOER, ULF STALMACH, PAUL F. VAN HUTTEN, CHRISTIAN MELZER, VICTOR V. KRASNIKOV and GEORGES HADZIOANNOU; Supramolecular self-assembly and opto-electronic properties of semiconducting block copolymers; Polymer; March 2, 2001; Pages 9097-9109; Volume 42, 2001; Elsevier.	

Examiner
Signature

/Asha Hall/

Date
Considered

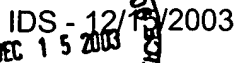
03/05/2007

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



PTO/SB/08b (08-03)

Approved for use through 06/30/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 14498/PTO

(Use as many sheets as necessary)

Complete if Known

Application Number	10/714230
--------------------	-----------

Filing Date	11/14/03
--------------------	----------

First Named Inventor	Sam-Shajing Sun
-----------------------------	------------------------

Art Unit	1709
----------	------

Examiner Name	Asha Hall
---------------	-----------

Attorney Docket Number	036021.0002
------------------------	-------------

Sheet	1	of	1
-------	---	----	---

NON PATENT LITERATURE DOCUMENTS

Examiner Signature	/Asha Hall/	Date Considered	03/05/2007
-----------------------	-------------	--------------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.
This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.